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TRANSLATION 1139 (T1139)
MEDICAL ZOOLOGY DEPARTMENT
UNITED STATES NAVAL MEDICAL
RESEARCH UNIT NUMBER THREE
CAIRO, EGYPT

TRANSLATION FROM RUSSIAN. VINOGRAD, I. A., GAIDAMOVICH, S. Ya., VIGOVSKY, A. I., ROGOCHY, E. G. & OBUKHOVA, V. R. (1975)*. ⁴¹⁰⁸Investigation of the role of birds in ecology of arboviruses in western Ukraine. ⁴²Mater. 9. ²Simp. Ekol. Virus. (Dushanbe, October 1975), pp. 156-157.

Participation of birds in arbovirus circulation in natural infection foci was demonstrated by several investigators by tests to isolate viruses and detect antibodies in the blood of birds. Close contact of birds with human surroundings creates prerequisites for development of arbovirus diseases among domestic animals and humans.

As a result of the 1970-74 investigations on detection of arboviruses in western Ukraine, 62 virus strains were isolated, including 31 strains from ticks, 13 from mosquitoes, 13 from wild birds, 4 from small mammals, and 1 from a person sick with meningoencephalitis.

Six of 13 strains isolated from birds were studied and identified. Strain 378 was isolated on 25/8/70 from the brains of 5 blackbirds trapped on 25/5/70 in the forest near Rukshin village, Khoten' region, Chernovtsy Oblast. Strain 580 was isolated on 6/6/72 from the brains of chaffinches trapped on 12/4/72 in the forest near Zalozhtsy village, Zborov region, Tarnopol' Oblast. Strain 936 was isolated on 9/7/73 from the brain and organs of a hawfinch shot on 30/6/73 in the forest near Rodnikovka village, Svalyava region, Transcarpathia Oblast. Strain 974 was isolated on 26/7/73 from the brain of a turtle dove shot on 7/7/73 in the forest near Prilesnoe village, Manevichi region, Volyn' Oblast. Strain 952 was isolated on 23/6/73 from the brain and organs of 2 partridges trapped on 13/7/73 near Zolotoe

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TRANSLATION II

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village, Zarechnoe region, Rovno Oblast. Strain 1158 was isolated on 6/6/74 from the brain of a carrion crow trapped on 16/6/74 near Privetovka village, Zarechnoe region, Rovno Oblast.

According to biological properties (tests in animals, chicken embryos, and chicken embryo fibroblast tissue culture), all strains proved to be similar. The incubation period in NWM infected by different methods was 4-6 (avg.) days and decreased to 3-5 days following passages. The disease in all suckling mice was manifested as asthenia, disorders in coordination of movements, spasms, and death. In 3-4 week old mice, the virus caused disease in about 50% of infected animals and showed only slight pathogenicity for adult white mice, guinea pigs, and white rats. All strains developed well in 6 day old chicken embryos and caused death of most of them; the strains had a slight effect on chicken embryo tissue culture.

From results of serological identification by the CF test with polytype and monotype IAF (immune ascitic fluids) to arboviruses (IAF were obtained from D. I. Ivanovsky Virological Institute, USSR Academy of Medical Sciences), 4 strains (378, 580, 936, and 974) were referred to Uukuniemi virus and 2 strains (952 and 1158) were identified as Batai virus of the Bunyamwera serogroup.

Isolation of Uukuniemi virus from migratory and wandering birds expands the circle of its ecological associations and shows the important role of birds in distribution of this virus. In the available literature, there are no publications on isolation of Bunyamwera group viruses from birds. Isolation of Batai virus from resident birds feeding in foci where this virus was isolated for 3 years previously from mosquitoes allowed us to assume that birds are important in maintaining natural foci of this arbovirus in western Ukraine.

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